

POTENTIAL CONTRIBUTION OF SPACEBORNE MICROWAVE SCATTEROMETER AND RADIOMETER IN MONSOON STUDIES

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The onsets of monsoon during May of 1993 and 1994 were clearly observed by the microwave scatterometer on the European spacecraft ERS 1 which was launched in 1992. The opportunity to study monsoon will be further improved with the NASA scatterometer (NSCAT) which is scheduled to be launched on the Japanese spacecraft ADEOS in February 1996 and it will have improved accuracy and double sampling. It is designed to provide ocean surface wind vectors under both clear and cloudy conditions, covering 90% of the ice-free ocean every two days. This sensor has the potential of significant contribution to the South China Sea Monsoon Experiment. The potential of microwave scatterometer will be greatly increase when applied in conjunction with the Special Sensor Microwave Imager (SSM/I) flying on the operational spacecraft of the Defense Meteorological Space Program which measures the integrated water vapor and liquid water in the atmospheric column. The combination of spaceborne microwave scatterometer and radiometer in estimating the moisture transport in the atmosphere, and thus the hydrologic forcing over the ocean during the monsoon season is being explored. The oceanic response to the change of surface wind and buoyancy forcing during the onset of monsoon is also being examined through a primitive equation ocean general circulation model.

Key Words: satellite oceanography, air-sea interaction, monsoon, hydrologic balance
